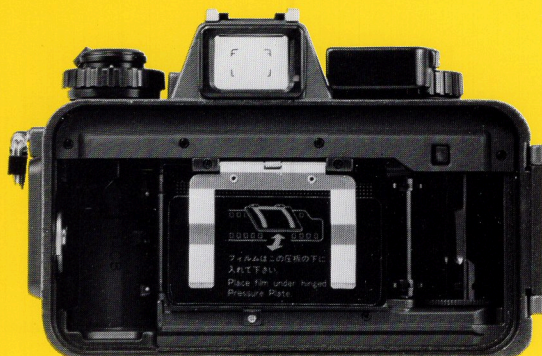






Nikonos-V

Product number:	10070 (orange) 10071 (green)
Type of camera:	Electronically-controlled 35mm underwater and all-weather camera with focal plane shutter
Construction:	Body made of cast aluminum alloy partially covered with rubber; water-proof sealing via O-ring
Operation range:	Can be used down to a pressure of approximately 6kg/cm ³ (depth of approx. 50m or 160 ft.)
Picture format:	24mm x 36mm (standard 35mm format)
Lens mount:	Nikonos spring-loaded bayonet
Lenses:	W-Nikkor 35mm f/2.5 as normal lens; 4 alternative lenses from super wideangle to short telephoto
Camera viewfinder:	Inverted-Galilean, Albada finder built into camera for use with standard 35mm lens; film frame marks show about 85% picture coverage at infinity; 0.55x magnification; 0.9 diopter; exit pupil lying well back permits viewing with eye up to 40mm away from finder; parallax correction marks provided; optical viewfinder or frame finders available as accessories for other Nikonos lenses
Camera viewfinder display:	LED shutter speed indicators; LED arrows (◀ ▶) indicate overexposure and underexposure; lightening-bolt symbol provided as flash ready-light
Shutter:	Electronically-controlled, vertical travel metal focal plane shutter
Shutter speeds:	At "A" (Auto), electronically-controlled, stepless speeds from 1/30 sec. to 1/1000 sec.; at manually-selected setting (30-1000), quartz-controlled speeds from 1/30 sec. to 1/1000 sec., at "M90", mechanically controlled 1/90 sec. speed; at "B" (Bulb), mechanically controlled for long exposures; "R" setting provided for rewinding film
Shutter release:	Via button atop anatomically-shaped grip; gentle pressure on button switches metering system on; meter remains on for 16 sec. after finger is removed; shutter release lock incorporated
Exposure control:	Via selector dial which provided for both manual and automatic exposure control for general and flash photography
Exposure metering:	Through-the-lens (TTL), centerweighted metering with two silicon photodiodes (SPDs); one of the SPDs for TTL flash control with SB-102, SB-103 and other units
Metering range:	EV8 to EV19 at ASA/ISO 100 with f/2.8 lens (1/30 sec at f/2.8 to 1/1000 sec at f/22)
Film speed range:	ISO 25 to 1600



Accessory shoe:

Built into top of viewfinder

Flash synchronization:

X-synchronization only, via flash socket in camera base; synchronizes at 1/90 sec. or slower; Nikonos electronic flash unit SB-102 or SB-103 switches camera automatically to 1/90 sec. when shutter speed selector dial is at "A" or at manual speed of 1/125 sec. or higher; at manual speeds of 1/60 sec. or slower, shutter fires at speed set

Flash ready-light:

Lightening symbol in viewfinder lights up when SB-102, SB-103 or another flash unit has recycled; flashes to warn of full power output from flash which may result in insufficient subject illumination, incorrect setting of shutter speed selector dial or film speed setting higher than ISO 400

Film advance lever:

Wound in single stroke or series of strokes; 144° winding angle; hinged for compactness; when shutter speed selector dial is at "A", shutter releases at about 1/1500 sec. until film frame counter reaches frame one

Frame counter:

Additive type; resets automatically when camera back is opened

Film rewind:

Manually via film rewind crank after shutter speed selector dial has been set to "R"; shutter release button remains locked during rewinding

Camera back:

Hinged type with camera back locking pin; opened and locked via camera back lock/release latch and camera back release button

Pressure plate:

Hinged type, attached to camera body; locking catch provided

Tripod socket:

Incorporated in camera baseplate; 1/4-inch thread (JIS)

Power source:

Two 1.5v silver-oxide (button-cell) batteries or one 3V Lithium battery

Battery check:

Possible when shutter speed selector dial is at any setting except M90, B or R, and frame counter is at or beyond "1"; when shutter release button is depressed, viewfinder display lights up to confirm sufficient battery power; when batteries are exhausted, mechanical operation provided at either M90 or B settings

Dimensions:

146mm(W) x 99mm(H) x 58mm (D)
(5.7" x 3.9" x 2.3"), body only

Weight:

700g (24.6 oz.), body only

Optional accessories:

Custom Shoulder Case
O-ring Set with (Grease replacement)





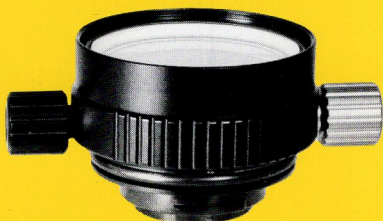
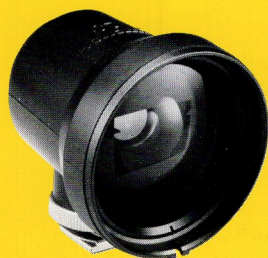
UW-Nikkor 15mm f/2.8

This lens is intended exclusively for underwater photography

Product number:	10315
Focal length:	15mm
Maximum aperture:	f/2.8
Picture angle:	94° (underwater)
Optical construction:	12 elements in 9 groups (including front protective port glass)
Minimum focusing distance:	0.3m (1 ft.)
Aperture:	Manual aperture diaphragm
Aperture scale:	f/2.8-f/22
Depth of field display:	Via mechanism coupled with aperture setting for direct reading from distance scale
Lens mount:	Nikonos spring-loaded bayonet
Attachment size:	87mm diameter
Dimensions:	93mm dia. x 90.6mm (3.7" x 3.6")
Weight:	665g (23 oz.)

DF-11 Viewfinder for UW-Nikkor 15mm f/2.8

Product number:	10758
Optical system:	Inverted Galilean telescope; usable only underwater
Optical construction:	3 elements in 3 groups
Magnification:	0.24x
Field of view:	90°/picture coverage
Parallax compensation:	Built-in parallax correction marks for 1.5m, 0.6m or 0.3m (5 ft., 2 ft. or 1 ft.)
Mounting:	With clamping screw in camera accessory shoe
Dimensions:	68mm dia. x 71mm
Weight:	280g



UW-Nikkor 20mm f/2.8

This lens is intended exclusively for underwater photography

Product number:	10314
Focal length:	20mm
Maximum aperture:	f/2.8
Picture angle:	78° (underwater)
Optical construction:	9 elements in 7 groups (including front protective glass port)
Minimum focusing distance:	0.4m (16 in.)
Aperture:	Manual aperture diaphragm
Aperture scale:	f/2.8-f/22
Depth of field display:	Via indicators on aperture selector knob; settings marked in yellow, orange and red for apertures f/4, f/5.6 and f/11
Lens mount:	Nikonos spring-loaded bayonet
Attachment size:	67mm diameter
Dimensions:	70mm dia. x 74mm (2.7" x 2.9")
Weight:	350g (12 oz.)

DF-12 Viewfinder for UW-Nikkor 20mm f/2.8 and 28mm f/3.5

Product number:	10759
Optical system:	Inverted Galilean telescope; usable only underwater
Optical construction:	3 elements in 3 groups
Magnification:	0.35x
Field of view:	85/picture coverage
Parallax compensation marks:	20mm, fixed setting at estimated distance 1.5m (4.5 ft.); 28mm, fixed setting at estimated distance 2.0m (6 ft.)
Close-up parallax marks:	20mm, focusing distance 40cm (16 in.); 28mm, focusing distance 60cm (24 in.)
Mounting:	With clamping screw in camera accessory shoe
Dimensions:	61.5mm dia. x 71mm
Weight:	160g

UW-Nikkor 28mm f/3.5

This lens is intended exclusively for underwater photography

Product number:	10310
Focal length:	28mm
Maximum aperture:	f/3.5
Picture angle:	59° (underwater)
Optical construction:	6 elements in 5 groups (including front protective glass plate)
Minimum focusing distance:	0.6m (24 in.)
Aperture:	Manual aperture diaphragm
Aperture scale:	f/3.5-f/22
Depth of field display:	Via mechanism coupled with aperture setting for direct reading from distance scale
Lens mount:	Nikonos spring-loaded bayonet
Attachment size:	58mm diameter
Dimensions:	62mm dia. x 43.8mm (2.4" x 1.7")
Weight:	175g (6 oz.)



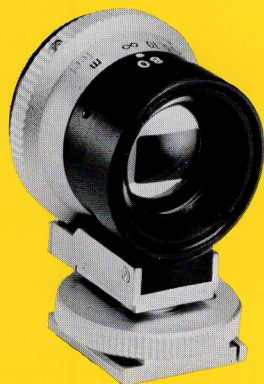
W-Nikkor 35mm f/2.5

Product number:	10311
Focal length:	35mm
Maximum aperture:	f/2.5
Optical construction:	6 elements in 4 groups (including front protective glass plate)
Picture angle:	62° on land, 46° 30' underwater
Minimum focusing distance:	0.8m (30 in.)
Aperture:	Manual aperture diaphragm
Aperture scale:	f/2.5-f/22
Depth of field display:	Via mechanism coupled with aperture setting for direct reading from distance scale
Attachment size:	58mm diameter
Dimensions:	62mm dia. x 39.5mm (2.4" x 1.5")
Weight:	160g (6 oz.)



W-Nikkor 80mm f/4

Product number:	10312
Focal length:	80mm
Maximum aperture:	f/4
Optical construction:	4 elements in 4 groups (plus front protective glass plate)
Picture angle:	30° 20' on land, 22° 45' underwater
Minimum focusing distance:	1m (3 ft.)
Aperture:	Manual aperture diaphragm
Aperture scale:	f/4-f/22
Depth of field display:	Via mechanism coupled with aperture setting for direct reading from distance scale
Lens mount:	Nikonos spring-loaded bayonet
Attachment size:	58mm diameter
Dimensions:	62mm dia. x 66mm (2.4" x 2.6")
Weight:	275g (10 oz.)



DF-10 Viewfinder for Nikkor 80mm f/4

Product number:	10756
Optical system:	Inverted Galilean, Alboda finder for use on land only
Parallax compensation:	The focusing ring on the finder shifts the bright frame to adjust the view for parallax compensation
Weight:	35g



LW-Nikkor 28mm f/2.8

This lens is intended exclusively for on land photography

Product number:	10313
Focal length:	28mm
Maximum aperture:	f/2.8
Picture angle:	74° (on land)
Optical construction:	5 elements in 5 groups
Minimum focusing distance:	0.5m (18 in.)
Aperture scale:	f/2.8-f/22
Depth of field display:	Via indicators on lens barrel; blue display for f/11 and orange display for f/22
Lens mount:	Nikonos spring-loaded bayonet
Attachment size:	52mm diameter
Dimensions:	68.5mm dia. x 57mm (2.7" x 2.2")
Weight:	240g (8 oz.)



TTL UW Speedlight Set SB-102

Product number:

10102

Application:

High-powered electronic underwater TTL flash unit; automatic TTL flash output control with Nikonos-V; auto flash control via optional Flash Sensor Unit SU-101; manual power levels of "Full", "1/4" and "1/16" with Nikonos III and IVA and V

Electronics:

High-performance thyristor in series circuit controlled via internal camera TTL sensor or optional Flash Sensor Unit SU-101

Guide number:

Full output 32 on land (16 underwater), 1/4 output 16 on land (8 underwater), 1/16 output 8 on land (4 underwater), with ISO 100 film in meters

Operating range:

TTL, ISO 25-400; f/2.8-f/22 at ISO 100 non-TTL

Operating distance:

0.3m-11m on land, 0.3m-5.5m underwater, with TTL control, ISO 100; with sensor unit SU-101 (no TTL metering, ISO 100), 0.6m-8m on land at f/4 (0.6m-4m underwater) or 0.6m-4m on land at f/8 (0.6m-2m underwater)

Angle of coverage:

79° (sufficient for 28mm lens) as normal; 94° (sufficient for 15mm lens) via Wide Flash Adapter SW-102

Recycling time/number of flashes:

With C-cell rechargeable NiCd batteries, minimum of 70 flashes with about 5 sec. charging time (depending on the recharge level of the batteries); with Alkaline-manganese batteries; minimum of 120 flashes with about 14 sec. charging time

Power source:

Six 1.5v C-cell type batteries; NiCd rechargeable batteries usable

Target light:

Light fitted at center of flash illuminates along flash axis to facilitate positioning

Slave flash function:

When set for slave triggering, can be triggered via operation of another flash unit

Multiple flash function:

With double bracket and double sync cord accessories, two SB-102 speedlight or one SB-102 and one SB-103 can be used simultaneously for TTL-controlled flash operation

Flash ready-light:

Visible in the camera viewfinder (Nikonos IV-A/V only), and on top of flash head

Mounting:

Via flash bracket (supplied)

Dimensions:

139mm (W) x 152.5mm (H) x 212mm (D), head only

Weight:

1670g (59 oz.), head only without batteries

Wide Flash Adapter SW-102 for SB-102 (replacement)

Product number:

10207



TTL UW Speedlight Set SB-103

Product number:

10103

Application:

Electronic underwater TTL flash unit; Automatic TTL flash output control with Nikonos-V; manual power levels of "Full", "1/4", and "1/16" output with Nikonos III, IVA and V

Electronics:

High-performance thyristor in series circuit controlled via internal camera TTL sensor with Nikonos-V

Guide number:

Full output 20 on land (14 underwater), 1/4 output 10 on land (7 underwater), 1/16 output 5 on land (3.5 underwater), with ISO 100 film in meters

Angle of coverage:

79° (sufficient for 28mm lens) as normal; 94° (sufficient for 15mm lens) via Wide Flash Adapter SW-103

Batteries:

Four 1.5v AA-type (penlight) batteries; NiCd rechargeable batteries usable

Number of flashes:

Approximately 50 flashes with NiCd rechargeable batteries; approximately 130 flashes with alkaline-manganese batteries

Recycling time:

Approximately 6 sec. with NiCd rechargeable batteries; approximately 9 sec. with fresh alkaline-manganese batteries

Operating range:

TTL, ISO 25-400; f/2.8-f/22 at ISO 100, non-TTL

Operating distance:

0.3m-7m on land, 0.3m-3.5m underwater, with TTL control, ISO 100

Multiple flash function:

With double bracket and double sync cord, two SB-103 speedlights or one SB-102 and one SB-103 can be used simultaneously for TTL-controlled flash operation

Dimensions:

175mm (W) x 130mm (H) x 99mm (D), head only

Weight:

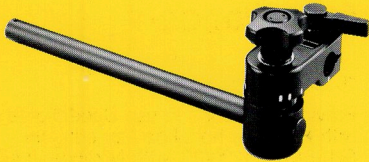
780g (27 oz.), head only without batteries



Wide Flash Adapter SW-103 for SB-103 (replacement)

Product number:

10216

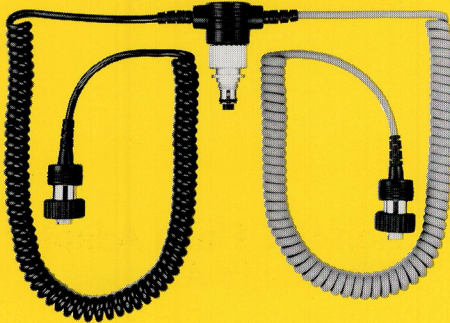


Product Number:

10203

Application:

For extending the bracket arm of TTL UW Speedlights SB-102/SB-103



Product number:

10204

Application:

For Nikonos V to provide underwater TTL operation with two TTL UW Speedlights SB-102/103



Product number:

10214

Application:

For mounting two TTL UW speedlights SB-102/103 on the Nikonos V



Product number:

10202



Product number:

10746

Application:

To provide non-TTL automatic flash operation with UW Speedlights SB-101/102



Product number:

10741

Application:

Spacious carrying case to transport complete speedlight with camera; inside pockets provided for film, O-rings, etc.

Construction:

Beige-patterned leatherette with dark brown and black decorative panels



Product number:

Non-UW TTL Sync Cord for Nikonos-V

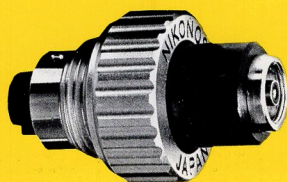
10205

Application:

Provides a means to use Speedlights equipped with ISO-type hot shoe (speedlights SB-15/16B/18/20/22, with Nikonos-V; full TTL operation provided via dedicated contacts on shoe; cannot be used underwater; 60cm (8 in.) cord length

Weight:

65g

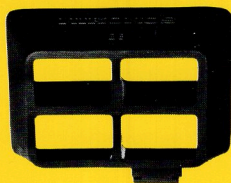


Product number:

10729

Application:

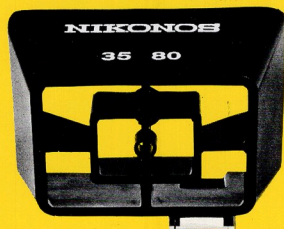
Provides a means to use conventional speedlights with Nikonos IV-A via sync connecting cord; cannot be used underwater



Product number:

Underwater Frame Finder for 28mm Lens

10751



Product number:

Underwater Frame Finder for 35mm/80mm Lenses

10753



Product number:

Rigid Lens Hood/Filter Adapter 52mm

10625

Application:

Enables mounting of 52mm diameter threaded filters on 35mm and 80mm lenses



Product number:

Rubber Lens Hood for 35mm Lens

10626

Application:

Slip-over design protects entire lens; for W-Nikkor 35mm f/2.5 lens only



Product number:

Plastic Lens Protector

10620

Application:

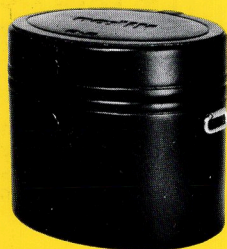
Mounts on 58mm thread of 28/35/80mm Nikonos lenses; protects the lens front from stones, etc.



Product number:

CL-50A Hard Lens Case for 28/35mm Lenses

10418



Product number:

CL-51 Hard Lens Case for 80mm Lens

10419



Product number:

Front Lens Cap for 28/35/80mm Lenses

10804

Application:

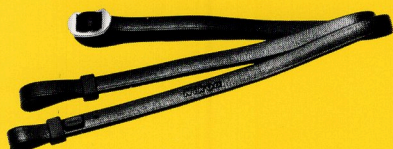
60mm diameter slip-on design for the Nikonos lenses with 58mm attachment size (28/35, 35/2.5, 80/4)



Product number:

Rear Lens Cap for 28/35/80mm Lenses

10730



Custom Shoulder Case for Nikonos IV-A, V

Product Number:

10420

Application:

Shoulder carrying case for camera with 35mm lens; zippered pocket provides space to store incidentals

Construction:

Beige-patterned leatherette with dark brown and black decorative panels

Neck Strap for Nikonos IV-A, V (replacement)

Product number:

10422

O-ring Set for TTL UW Speedlight SB-103 (replacement)

Product number:

10711

Consisting of:

Three rubber O-rings (battery compartment, flash contact plug) and one tube of silicone grease; one spare set is provided with the speedlight at the time of purchase

O-ring Set for Nikonos V (replacement)

Product number:

10713

Consisting of:

Four rubber O-rings (camera back, flash terminal cap, battery compartment and lens) and one tube of silicone grease; one spare set is provided with the camera at time of purchase

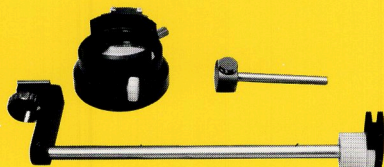
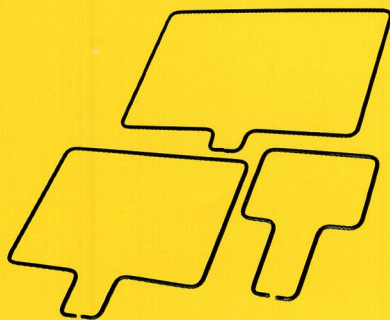
O-ring Set for TTL UW Speedlight SB-102 (replacement)

Product number:

10712

Consisting of:

Three rubber O-ring (battery compartment, flash contact plug) and one tube of silicone grease; one spare set is provided with the speedlight at time of purchase



Close-up Outfit for Nikonos III, IVA and V

Product number: 10705

Consisting of:

Close-up attachment lens (can be mounted and removed underwater); three field frames for 28mm, 35mm and 80mm lenses; frame support bracket for precise camera-to-subject distances; holder for close-up attachment lens; and carrying case for close-up outfit and camera

Optical construction:

2 elements in 2 groups

Working distance:

235mm from front of lens to field frame

Focus setting:

At infinity focus on the lens

Exposure control:

TTL auto exposure control or manual with Nikonos-V w/SB 102 or 103 speedlights; non TTL auto exposure control or manual with Nikonos-IVA w/SB 101 or 102 speedlights; manual only with Nikonos III w/SB 101, 102 or 103 speedlights

Weight:

570g (with 28mm field frame)

Magnification:

With 28mm lens underwater, $M = 1:6$ (field 144mm x 216mm); with 35mm lens underwater, $M = 1:4.5$ (field 109mm x 164mm); with 80mm lens underwater, $M = 1:2.2$ (field 53mm x 79mm); with 35mm lens on land (and using 28mm field frame), $M = 1:6.5$ (field 155mm x 233mm); with 80mm lens on land (and using 35mm field frame), $M = 1:3$ (field 71mm x 106mm)

Case for Close-up Outfit

Product number: 10706

Application:

Fitted foam-lined case with pre-cut space for complete close-up outfit with camera